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CLAIMS

1. Cerebral electrostimulation device containing at least one commutation device (300) comprising:

5                   - switching means comprising electromechanical bistable switches included in a microelectromechanical system,

                  - at least one input and several outputs each connected to at least one biocompatible electrode  
10 (200) or at least one active area (202) of a biocompatible electrode (200), the commutation device (300) being used to selectively connect at least one input to one or more outputs.

15                   2. Cerebral electrostimulation device according to claim 1, the commutation device (300) also containing one or more antennas.

                  3. Cerebral electrostimulation device  
20 according to either claim 1 or 2, also containing one control device (400) external to the commutation device (300) capable of controlling or programming the commutation device (300) by radio and / or electrical signals.

25                   4. Cerebral electrostimulation device according to claim 3, the control device (400) containing remote transmission means.

5. Cerebral electrostimulation device according to claim 3, the control device (400) containing remote transmission means to send radio frequency signals Sc.

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6. Cerebral electrostimulation device according to one of claims 3 to 5, also containing means (500) capable of programming the control device (400).

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7. Cerebral electrostimulation device according to one of claims 1 to 6, also containing power supply means for supplying power to the commutation device (300).

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8. Cerebral electrostimulation device according to claim 7, the power supply means including a power supply (321) integrated in the commutation device (300).

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9. Cerebral electrostimulation device according to either claim 7 or 8, the power supply means comprising a remote power supply device.

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10. Cerebral electrostimulation device according to claim 9, in which the remote transmission device comprises at least one energy source (415) external to the commutation device (300), capable of supplying energy to the commutation device in the form of a radio wave and energy collection means integrated into the commutation device (300) capable of picking up

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said energy, the energy source (415) being integrated into the control device (200).

11. Cerebral electrostimulation device  
5 according to one of claims 1 to 10, the electrostimulation device comprising stimulation electrodes and / or measurement electrodes and / or a combination of stimulation electrodes and measurement electrodes.

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12. Cerebral electrostimulation device according to one of claims 1 to 11, also comprising at least one stimulator (100) and / or one measurement device (600).

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13. Cerebral electrostimulation device according to claim 12, comprising at least one stimulator (100) provided with an integrated power supply (101).

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14. Cerebral electrostimulation device according to either claim 12 or 13, the stimulator (100) comprising one or more channels connected to one or more inputs of the commutation device (300).

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15. Cerebral electrostimulation device according to one of claims 12 to 14, comprising at least one measurement device (600) with one or more channels connected to one or more inputs of the  
30 commutation device (300).

16. Cerebral electrostimulation device comprising at least one interconnection device (333) including:

- switching means comprising  
5 electromechanical bistable switches included in a microelectromechanical system,
- at least one input, and several outputs each connected to at least one biocompatible electrode (200) or at least one active area (202) of a  
10 biocompatible electrode (200), the interconnection device (333) used to connect each of one or more predetermined inputs to one or more predetermined outputs.

15 17. Cerebral electrostimulation device according to claim 16, also comprising at least one stimulator (100).

20 18. Cerebral electrostimulation device according to claim 17, the stimulator (100) being provided with an integrated power supply (101).

25 19. Cerebral electrostimulation device according to one of claims 1 to 18, in which the commutation device (300) or the interconnection device (333) comprises several inputs, the commutation device (300) being used to connect each input to one or more outputs.

30 20. Cerebral electrostimulation device according to one of claims 1 to 19, the commutation

device (300) or interconnection device (333) being biocompatible.

21. Cerebral electrostimulation device  
5 according to one of claims 1 to 20, the commutation device (300) or interconnection device (333) comprising switching means.

22. Cerebral electrostimulation device  
10 according to either claim 20 or 21, in which the switching means are arranged in matrix form.